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EXAMINER	
ROYAL, PAUL	

ART UNIT	PAPER NUMBER
3611	

DATE MAILED: 02/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/017,473	WUERTZ ET AL.	
	Examiner	Art Unit	
	Paul Royal	3611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 November 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-10,27-31,34-38 and 55-58* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-10,27-31,34-38 and 55-58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed on 17 November 2003 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 30-31, 34-38 and 55-58 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al. (US 5,249,422).

Smith et al. teaches a drive-by-wire vehicle, the vehicle comprising: at least two independently driven wheels (16a, 16b) capable of bi-directional rotation the at least two wheels being independently driven so that operation of the at least two wheels causes the at least two wheels to independently rotate which propels and steers the vehicle (see column 3, lines 40-54);

a microprocessor (20), the microprocessor controlling the operation of the at least two wheels in accordance with signals received by the microprocessor;

and at least one controller (28a, 28b), the at least one controller sending signals to the microprocessor (20) that the microprocessor uses to control the operation of the at least two wheels so that operation of the at least one controller causes the at least two wheels to propel and steer the vehicle;

wherein the at least two wheels are hydraulically driven and further comprising: at least one hydraulic pump (205) that provides a flow of hydraulic fluid to drive the at least two wheels;

at least one proportional servo valve (80a, 80b) that controls a direction and speed of the flow of hydraulic fluid to the at least two wheels, the at least one valve being controlled by the microprocessor and adjusting the flow of hydraulic fluid to the at least two wheels in response to signals received from the microprocessor, the adjusting of the flow of hydraulic fluid by the at least one valve controlling the direction and speed of rotation of the at least two wheels so that the vehicle can be propelled and steered;

the at least one hydraulic pump (205) is one of a plurality of hydraulic pumps (225a, 225b);

a first hydraulic pump of the plurality of hydraulic pumps provides a flow of hydraulic fluid to a first wheel; a second hydraulic pump of the plurality of hydraulic pumps provides a flow of hydraulic fluid to a second wheel; the at least one proportional servo valve (80a, 80b) is one of a plurality of proportional servo valves; a first valve (80a) of the plurality of valves adjusting the flow of hydraulic fluid from the first hydraulic pump of the plurality of hydraulic pumps to the first wheel in response to signals received from the microprocessor (20); and a second valve (80b) of the plurality of valves adjusting the flow of hydraulic fluid from the second hydraulic pump of the plurality of hydraulic pumps to the second wheel in response to signals received from the microprocessor (20), see column 7, lines 17-49;

wherein the at least one controller further comprises: a first controller (28a) that sends signals to the microprocessor that the microprocessor uses to control the operation of a first wheel so that operation of the first controller causes the first wheel to rotate; and a second controller (28b) that sends signals to the microprocessor that the microprocessor uses to control the operation of a second wheel so that operation of the second controller causes the second wheel to rotate;

wherein the first and second controllers (28a, 28b) are each selectively moveable between forward and reverse positions; movement of the first controller toward the forward position causing the first wheel to rotate in a direction that corresponds to propelling the vehicle in a forward direction and movement of the first controller toward the reverse position causing the first wheel to rotate in a direction that corresponds to propelling the vehicle in a backward direction; and movement of the second controller toward the forward position causing the second wheel to rotate in a direction that corresponds to propelling the vehicle in a forward direction and movement of the second controller toward the reverse position causing the second wheel to rotate in a direction that corresponds to propelling the vehicle in a backward direction, see column 10, lines 50-59;

each controller (28a, 28b) has a neutral position disposed between the forward and reverse positions; positioning of the first controller in the neutral position causing the first wheel to not be driven; and positioning of the second controller in the neutral position causing the second wheel to not be driven, see column 5, line 67- column 6, line 8);

wherein movement of the first and second controllers (28a, 28b) from the neutral position toward the forward and reverse positions causes a speed of rotation of the respective first and second wheels to increase in proportion to the movement of the first and second controllers from the neutral position, see column 6, lines 9-49;

a biasing switch/mode switch/gain controller (62), the biasing switch/mode switch/gain controller (62), being selectively operable to adjust the operation of the at least two wheels so that the vehicle can track a desired path, the biasing switch sending signals to the microprocessor in response to operation of the biasing switch/gain controller that the microprocessor uses to control the operation of the at least two wheels;

the biasing switch/mode switch/gain controller (62), being selectively operable between a work position and a transport position to adjust the operation of the at least two wheels, the work position corresponding to normal operation of the vehicle and the transport position corresponding to high speed operation of the vehicle, and the mode switch sending a signal to the microprocessor that the microprocessor uses to control the operation of the at least two wheels; and the microprocessor operating the vehicle in a normal mode when the biasing switch/mode switch/gain controller is in a work position and reducing a rate at which the at least two wheels steer the vehicle when the mode switch is in a transport mode so that the vehicle can safely turn during high speed operation;

the biasing switch/mode switch/gain controller (62), allowing a user of the vehicle to adjust the response of the vehicle caused by operation of the at least one controller,

and operation of the gain controller causing the gain controller to send signals to the microprocessor that inform the microprocessor on how to interpret signals from the at least one controller; and the microprocessor adjusts the operation of the at least two wheels in response to signals received by the microprocessor from the at least one controller based upon signals received from the biasing switch/mode switch/gain controller.

Note, the pedal details incorporated by reference to Patent No. 4,925,075 include, at column 3, lines 26-30, wherein the pedal is biased to the neutral (idle position) when no force is applied.

For claims 55-57 note, the biasing switch/mode switch/gain controller are understood to be the same where they operate to adjustably determine how much of a speed command will be imparted to each wheel. Also, applicant has not presented any specific information such as how the "mode switch" distinguishes between an input indicating a request to increase/decrease speed and an input indicating a turn where the "mode switch" is supposed to allow the speed increase but at least partially inhibit the turning. For example, applicant should indicate where the "mode switch" appropriately adjusts specific valves or flow rates that distinguish between an input indicating a request to increase/decrease speed and an input indicating a turn. This information should also clearly distinguish the "mode switch" from the biasing switch and the "gain controller".

For claim 38 where Smith et al. teaches use of data tables containing specific minimum and maximum applicable speeds separately in the forward and reverse

directions, Smith et al. is inherently understood to teach that he mower is capable of being propelled faster in the forward direction than in the backward direction because a set of data points indicating a slower reverse speed than the data points for the forward speed can be input into the EEPROM which contains the data tables.

Note the ground engaging drive means are understood to be the same as the wheels of the instant invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4, 6-10, 29 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US 5,249,422) in view of Wenzel et al. (US 5,433,066).

Smith et al. teaches a drive-by-wire vehicle, the vehicle comprising: at least two independently driven wheels (16a, 16b) capable of bi-directional rotation the at least two wheels being independently driven so that operation of the at least two wheels causes the at least two wheels to independently rotate which propels and steers the vehicle (see column 3, lines 40-54);

a microprocessor (20), the microprocessor controlling the operation of the at least two wheels in accordance with signals received by the microprocessor;

and at least one controller (28a, 28b), the at least one controller sending signals to the microprocessor (20) that the microprocessor uses to control the operation of the at least two wheels so that operation of the at least one controller causes the at least two wheels to propel and steer the vehicle;

wherein the at least two wheels are hydraulically driven and further comprising: at least one hydraulic pump (205) that provides a flow of hydraulic fluid to drive the at least two wheels;

at least one proportional servo valve (80a, 80b) that controls a direction and speed of the flow of hydraulic fluid to the at least two wheels, the at least one valve being controlled by the microprocessor and adjusting the flow of hydraulic fluid to the at least two wheels in response to signals received from the microprocessor, the adjusting of the flow of hydraulic fluid by the at least one valve controlling the direction and speed of rotation of the at least two wheels so that the vehicle can be propelled and steered;

the at least one hydraulic pump (205) is one of a plurality of hydraulic pumps (225a, 225b);

a first hydraulic pump of the plurality of hydraulic pumps provides a flow of hydraulic fluid to a first wheel of the at least two wheels; a second hydraulic pump of the plurality of hydraulic pumps provides a flow of hydraulic fluid to a second wheel of the at least two wheels; the at least one proportional servo valve (80a, 80b) is one of a plurality of proportional servo valves; a first valve (80a) of the plurality of valves adjusting the flow of hydraulic fluid from the first hydraulic pump of the plurality of hydraulic pumps to the first wheel of the at least two wheels in response to signals

received from the microprocessor (20); and a second valve (80b) of the plurality of valves adjusting the flow of hydraulic fluid from the second hydraulic pump of the plurality of hydraulic pumps to the second wheel of the at least two wheels in response to signals received from the microprocessor (20), see column 7, lines 17-49;

wherein the at least one controller further comprises: a first controller (28a) that sends signals to the microprocessor that the microprocessor uses to control the operation of a first wheel of the at least two wheels so that operation of the first controller causes the first wheel of the at least two wheels to rotate; and a second controller (28b) that sends signals to the microprocessor that the microprocessor uses to control the operation of a second wheel of the at least two wheels so that operation of the second controller causes the second wheel of the at least two wheels to rotate;

wherein the first and second controllers (28a,28b) enable operation of the mower in any of the group of forward, reverse, left turn and right turn;

wherein the first and second controllers (28a, 28b) are each selectively moveable between forward and reverse positions; movement of the first controller toward the forward position causing the first wheel of the at least two wheels to rotate in a direction that corresponds to propelling the vehicle in a forward direction and movement of the first controller toward the reverse position causing the first wheel of the at least two wheels to rotate in a direction that corresponds to propelling the vehicle in a backward direction; and movement of the second controller toward the forward position causing the second wheel of the at least two wheels to rotate in a direction that corresponds to propelling the vehicle in a forward direction and movement of the second controller

toward the reverse position causing the second wheel of the at least two wheels to rotate in a direction that corresponds to propelling the vehicle in a backward direction, see column 10, lines 50-59;

each controller (28a, 28b) has a neutral position disposed between the forward and reverse positions; positioning of the first controller in the neutral position causing the first wheel of the at least two wheels to not be driven; and positioning of the second controller in the neutral position causing the second wheel of the at least two wheels to not be driven, see column 5, line 67- column 6, line 8);

wherein movement of the first and second controllers (28a, 28b) from the neutral position toward the forward and reverse positions causes a speed of rotation of the respective first and second wheels of the at least two wheels to increase in proportion to the movement of the first and second controllers from the neutral position, see column 6, lines 9-49;

a biasing switch/mode switch/gain controller (62), the biasing switch/mode switch/gain controller (62), being selectively operable to adjust the operation of the at least two wheels so that the vehicle can track a desired path, the biasing switch sending signals to the microprocessor in response to operation of the biasing switch/gain controller that the microprocessor uses to control the operation of the at least two wheels;

the biasing switch/mode switch/gain controller (62), being selectively operable between a work position and a transport position to adjust the operation of the at least two wheels, the work position corresponding to normal operation of the vehicle and the

transport position corresponding to high speed operation of the vehicle, and the mode switch sending a signal to the microprocessor that the microprocessor uses to control the operation of the at least two wheels; and the microprocessor operating the vehicle in a normal mode when the biasing switch/mode switch/gain controller is in a work position and reducing a rate at which the at least two wheels steer the vehicle when the mode switch is in a transport mode so that the vehicle can safely turn during high speed operation.

biasing switch/mode switch/gain controller (62), allowing a user of the vehicle to adjust the response of the vehicle caused by operation of the at least one controller, and operation of the gain controller causing the gain controller to send signals to the microprocessor that inform the microprocessor on how to interpret signals from the at least one controller; and the microprocessor adjusts the operation of the at least two wheels in response to signals received by the microprocessor from the at least one controller based upon signals received from the biasing switch/mode switch/gain controller.

For claim 8, note the pedal details incorporated by reference to Patent No. 4,925,075 include, at column 3, lines 26-30, wherein the pedal is biased to the neutral (idle position) when no force is applied.

Note the ground engaging drive means are understood to be the same as the wheels of the instant invention.

Note, where Smith et al. teaches use of data tables containing specific minimum and maximum applicable speeds separately in the forward and reverse directions,

Smith et al. is inherently understood to teach that he mower is capable of being propelled faster in the forward direction than in the backward direction because a set of data points indicating a slower reverse speed than the data points for the forward speed can be input into the EEPROM which contains the data tables.

Smith et al. does not teach a frame and a mower deck coupled to the frame.

Wenzel et al. teaches a lawn mower including a frame (12) and a mower deck (42) coupled to the frame to provide a lawn mower in which the mower deck can be moved relative to the frame.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the lawn mower of Smith et al. to include a frame and a mower deck coupled to the frame, as taught by Wenzel et al., to provide a lawn mower in which the mower deck can be moved relative to the frame.

Note, while Smith et al. does not clearly show a frame, it is understood as inherent in the vehicle art that the drive system of Smith et al. is to be attached to a frame.

4. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US 5,249,422) in view of Brandt et al. (US 5,456,333).

Smith et al. teaches a drive system including at least two independently driven wheels (16a, 16b) capable of bi-directional rotation the at least two wheels being independently driven so that operation of the at least two wheels causes the at least two

wheels to independently rotate which propels and steers the vehicle (see column 3, lines 40-54);

a microprocessor (20), the microprocessor controlling the operation of the at least two wheels in accordance with signals received by the microprocessor;

and at least one controller (28a, 28b), the at least one controller sending signals to the microprocessor (20) that the microprocessor uses to control the operation of the at least two wheels so that operation of the at least one controller causes the at least two wheels to propel and steer the vehicle; and a biasing switch/mode switch/gain controller (62), the biasing switch/mode switch/gain controller (62), being selectively operable to adjust the operation of the at least two wheels so that the vehicle can track a desired path, the biasing switch sending signals to the microprocessor in response to operation of the biasing switch/gain controller that the microprocessor uses to control the operation of the at least two wheels;

a biasing switch/mode switch/gain controller (62), the biasing switch/mode switch/gain controller (62), being selectively operable to adjust the operation of the at least two wheels so that the vehicle can track a desired path, the biasing switch sending signals to the microprocessor in response to operation of the biasing switch/gain controller that the microprocessor uses to control the operation of the at least two wheels;

the biasing switch/mode switch/gain controller (62), being selectively operable between a work position and a transport position to adjust the operation of the at least two wheels, the work position corresponding to normal operation of the vehicle and the

transport position corresponding to high speed operation of the vehicle, and the mode switch sending a signal to the microprocessor that the microprocessor uses to control the operation of the at least two wheels; and the microprocessor operating the vehicle in a normal mode when the biasing switch/mode switch/gain controller is in a work position and reducing a rate at which the at least two wheels steer the vehicle when the mode switch is in a transport mode so that the vehicle can safely turn during high speed operation;

the biasing switch/mode switch/gain controller (62), allowing a user of the vehicle to adjust the response of the vehicle caused by operation of the at least one controller, and operation of the gain controller causing the gain controller to send signals to the microprocessor that inform the microprocessor on how to interpret signals from the at least one controller; and the microprocessor adjusts the operation of the at least two wheels in response to signals received by the microprocessor from the at least one controller based upon signals received from the biasing switch/mode switch/gain controller.

Smith et al. does not teach the biasing switch being on the at least one controller.

Brandt et al. teaches a driving control including a controller (82) having a biasing switch (86) on the controller to provide microprocessor based control which operate in response to control member movement by the operator.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the drive system of Smith et al. to include a driving control including a controller having a biasing switch on the controller, as taught by Brandt et al., to

provide microprocessor based control which operate in response to control member movement by the operator.

5. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US 5,249,422) in view of Monteith (US 4,191,270).

Smith et al. teaches a drive system including at least two independently driven wheels (16a, 16b) capable of bi-directional rotation the at least two wheels being independently driven so that operation of the at least two wheels causes the at least two wheels to independently rotate which propels and steers the vehicle (see column 3, lines 40-54);

a microprocessor (20), the microprocessor controlling the operation of the at least two wheels in accordance with signals received by the microprocessor;

and at least one controller (28a, 28b), the at least one controller sending signals to the microprocessor (20) that the microprocessor uses to control the operation of the at least two wheels so that operation of the at least one controller causes the at least two wheels to propel and steer the vehicle; and a biasing switch/mode switch/gain controller (62), the biasing switch/mode switch/gain controller (62), being selectively operable to adjust the operation of the at least two wheels so that the vehicle can track a desired path, the biasing switch sending signals to the microprocessor in response to operation of the biasing switch/gain controller that the microprocessor uses to control the operation of the at least two wheels;

a biasing switch/mode switch/gain controller (62), the biasing switch/mode switch/gain controller (62), being selectively operable to adjust the operation of the at least two wheels so that the vehicle can track a desired path, the biasing switch sending signals to the microprocessor in response to operation of the biasing switch/gain controller that the microprocessor uses to control the operation of the at least two wheels;

the biasing switch/mode switch/gain controller (62), being selectively operable between a work position and a transport position to adjust the operation of the at least two wheels, the work position corresponding to normal operation of the vehicle and the transport position corresponding to high speed operation of the vehicle, and the mode switch sending a signal to the microprocessor that the microprocessor uses to control the operation of the at least two wheels; and the microprocessor operating the vehicle in a normal mode when the biasing switch/mode switch/gain controller is in a work position and reducing a rate at which the at least two wheels steer the vehicle when the mode switch is in a transport mode so that the vehicle can safely turn during high speed operation;

the biasing switch/mode switch/gain controller (62), allowing a user of the vehicle to adjust the response of the vehicle caused by operation of the at least one controller, and operation of the gain controller causing the gain controller to send signals to the microprocessor that inform the microprocessor on how to interpret signals from the at least one controller; and the microprocessor adjusts the operation of the at least two wheels in response to signals received by the microprocessor from the at least one

controller based upon signals received from the biasing switch/mode switch/gain controller.

Smith et al. does not teach reducing a sensitivity to a steering input from the at least one controller.

Monteith teaches a drives system which includes reducing a sensitivity to a steering input from the at least one controller, see column 15, lines 33-55, to provide speed responsive means when the controls are moved to an extreme position.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the drive system of Smith et al. to include reducing a sensitivity to a steering input from the at least one controller, as taught by Monteith, to provide speed responsive means when the controls are moved to an extreme position.

Response to Arguments

6. Applicant's arguments filed 17 November 2003 have been fully considered but they are not persuasive. See the below explanations:

Applicant argues the prior art Smith et al. (US 5,249,433) applied by the Examiner at best discloses three separate controllers whereas the instant invention has two controllers.

Applicant's arguments are not persuasive because the instant invention is not claimed to have *only* two controllers. The controllers cited in Smith et al. meet the claim limitations even though there may be an additional controller in Smith et al.

Applicant's argues that Smith et al. does not anticipate a mower with first and second controllers that cause the respective first and second wheels to move in a respective forward and reverse direction based upon the positions of the first and second controllers and that Smith et al. uses three distinct controllers while the instant application uses two.

Applicant's arguments are not persuasive because of the Examiners above explanation with regards to the number of controllers and because the pedals (controllers) of Smith et al. operate the mower in forward and reverse depending on the pedal position and the manually operable control lever 32 merely provides control over what percentage of the maximum motor speed will be applied in conjunction with the controller signal, see column 4, lines 19-37.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Royal whose telephone number is 703-308-8570. The examiner can normally be reached on 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley D. Morris can be reached on 703-308-0629. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Royal
Examiner
Art Unit 3611

P. Royal
February 9, 2004

LESLEY D. MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600